CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.17/KS/WMM/Gradation/2014-15

16.04.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K. Shivakumar,** Contractor, Bangalore.

Name of Work : Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.

Reference : EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **8455**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	155	155	1.8	98.2	95-100
22.4	2310	2465	29.2	70.8	60-80
11.2	1325	3790	44.8	55.2	40-60
4.75	1285	5075	60.0	40.0	25-40
2.36	1105	6180	73.1	26.9	15-30
0.600	1010	7190	85.0	15.0	8-22
0.075	885	8075	95.5	4.5	0-8

Note:

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16.04.2014

GRADATION FOR WMM
MORTH TABLE-400-11

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Agency : **Mr. K. Shivakumar,** Contractor, Bangalore.

Name of Work : Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.

Reference : EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **8355**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	190	190	2.3	97.7	95-100
22.4	2650	2840	34.0	66.0	60-80
11.2	1250	4090	49.0	51.0	40-60
4.75	1190	5280	63.2	36.8	25-40
2.36	1020	6300	75.4	24.6	15-30
0.600	990	7290	87.3	12.7	8-22
0.075	865	8155	97.6	2.4	0-8

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Job No.: CTCE/BBMP/W.No.17/KS/WMM/AIV/2014-15 16.04.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 1 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	381	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	79	80	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	20.79	21.00	
	100* (W_2/W_1)%			20.89

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	386	388	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	84	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	304	
4	Aggregate Impact value = percent fines	21.24	21.65	
	100* (W_2/W_1)%			21.45

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Reference	EE/RRND/Wo.No/235/2013-14 Dated: 07.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	392	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	87	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	305	
4	Aggregate Impact value = percent fines	21.85	22.19	
	100* (W_2/W_1)%			22.02

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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